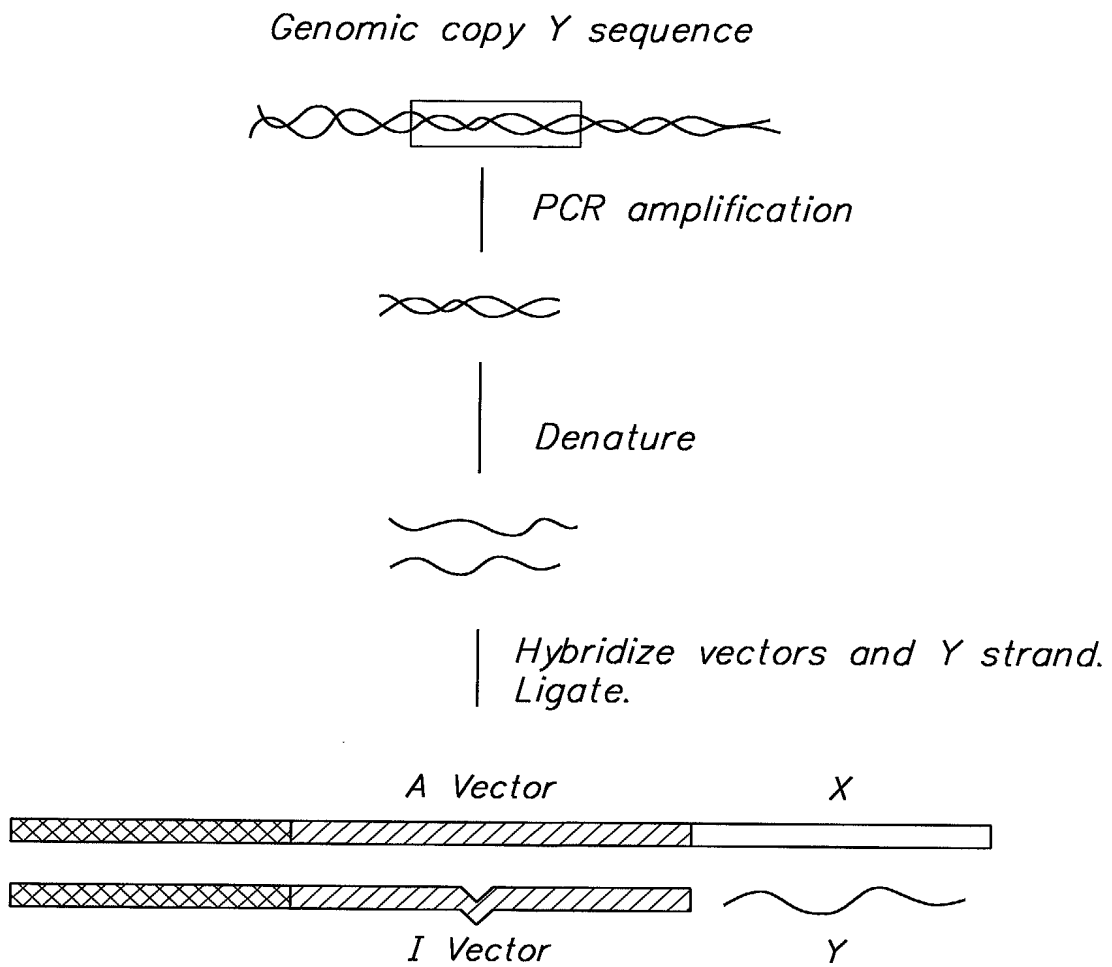
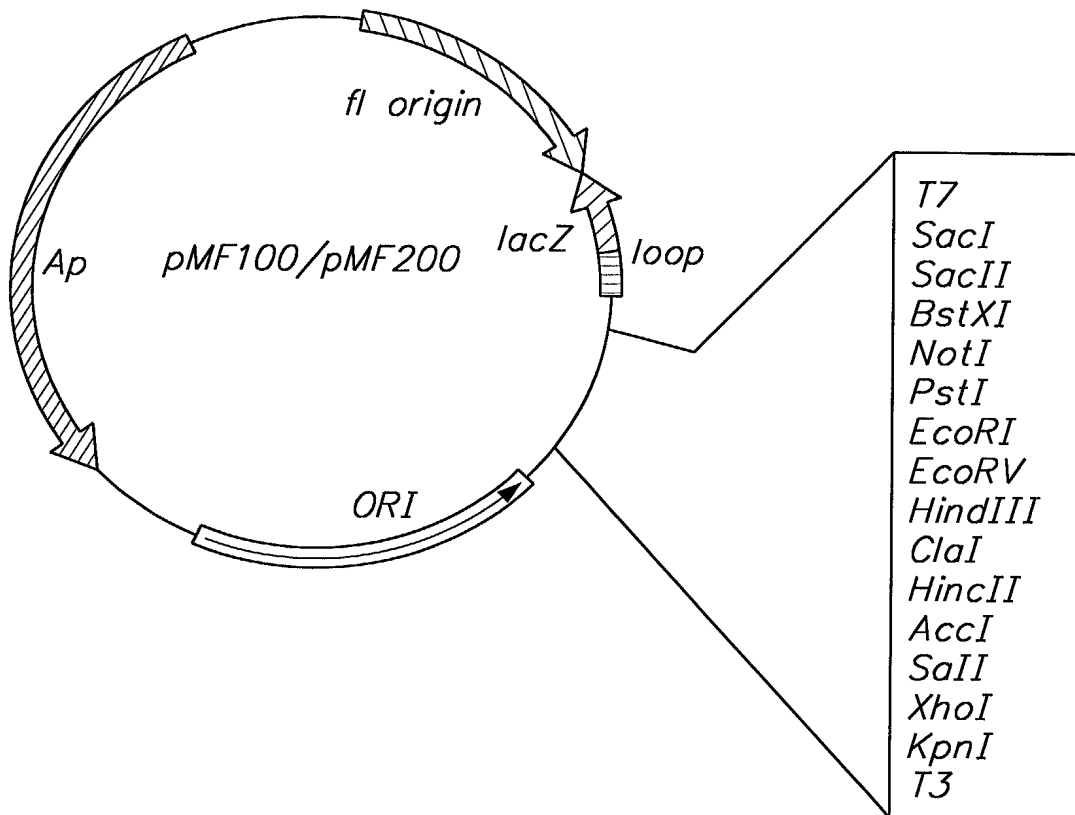
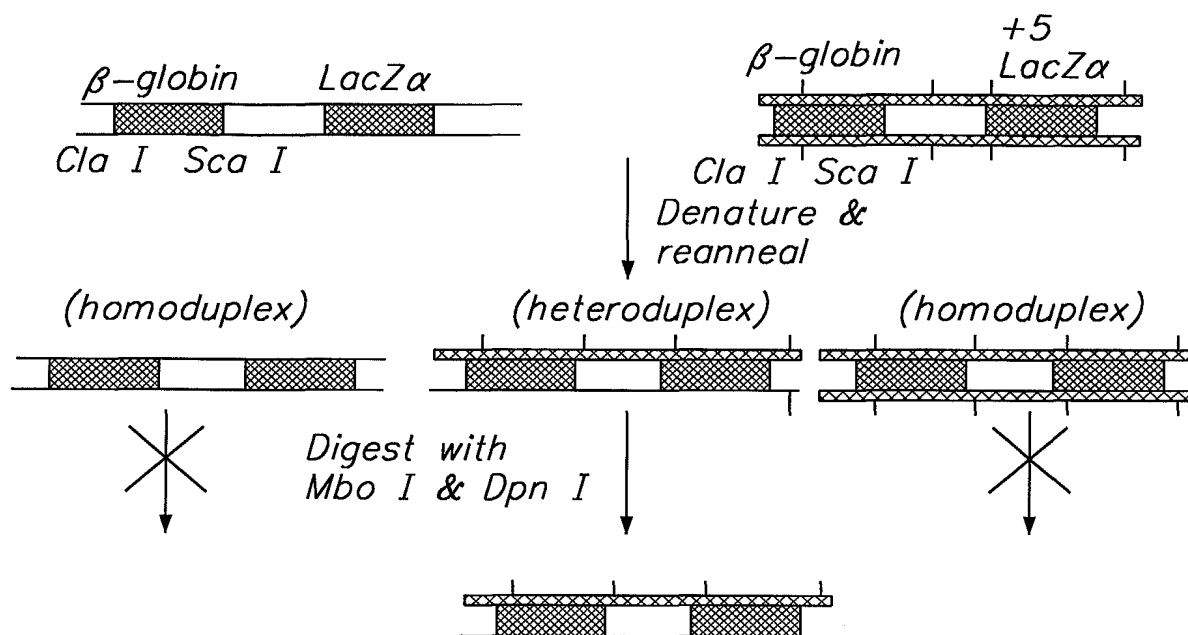


FIG. 1

**FIG. 2**

**FIG. 3**

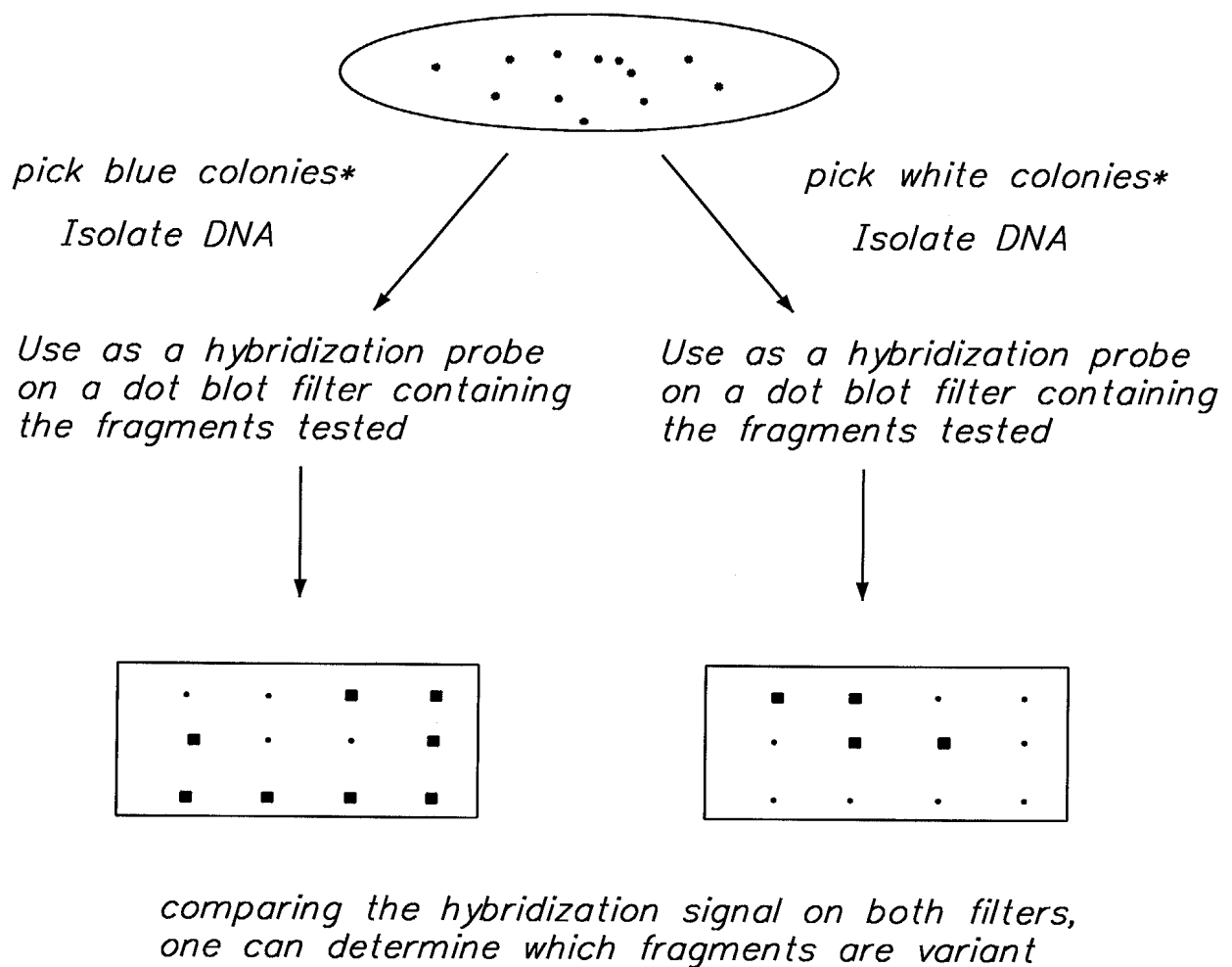


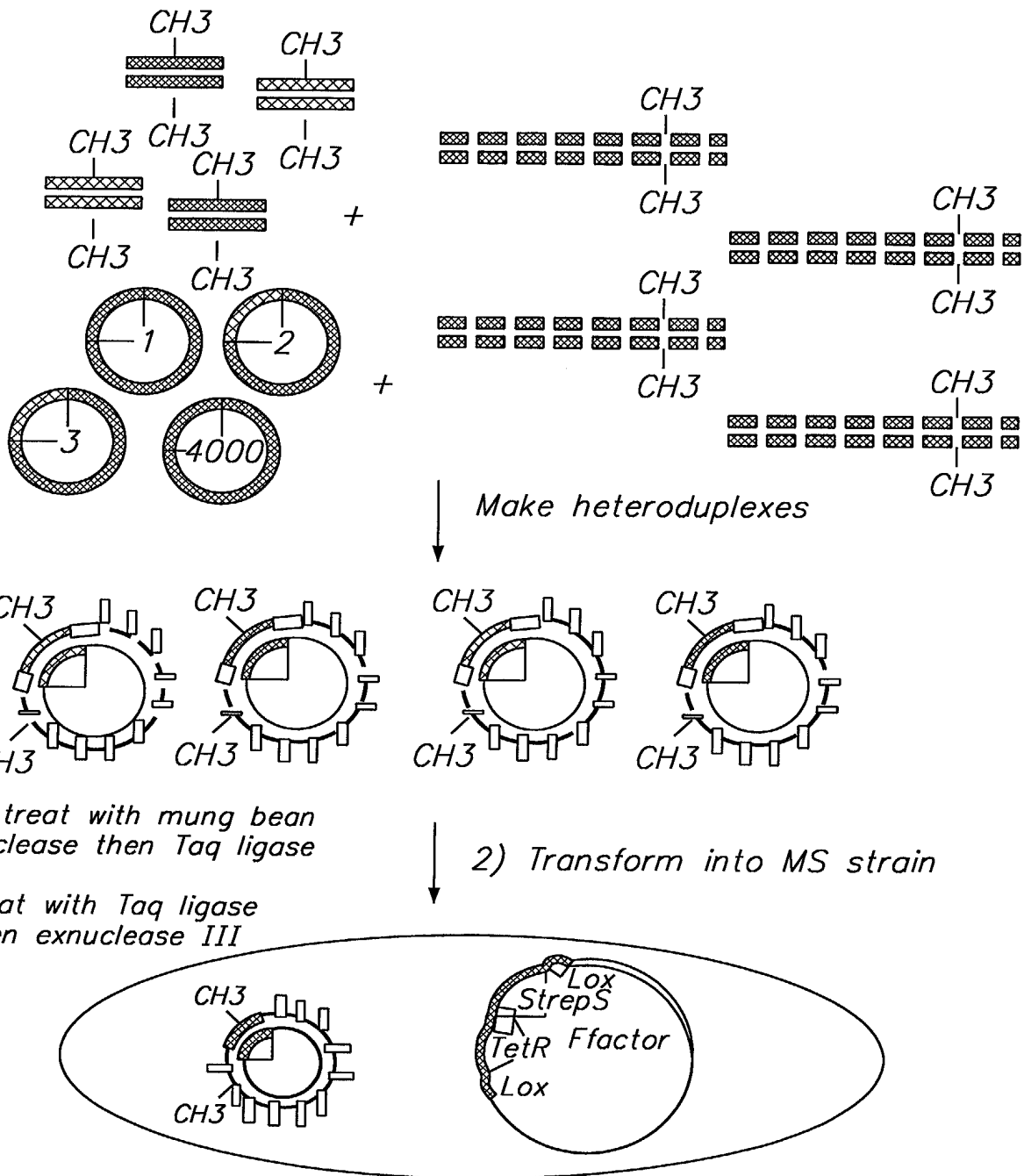
1: methylated GATC

—: plasmid with intact *LacZα*

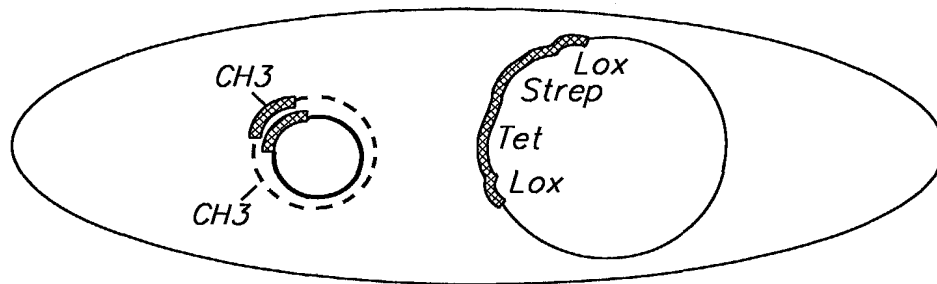
⊗: plasmid with a 5 bp insertion in *LacZα*

**FIG. 4**

**FIG. 5**

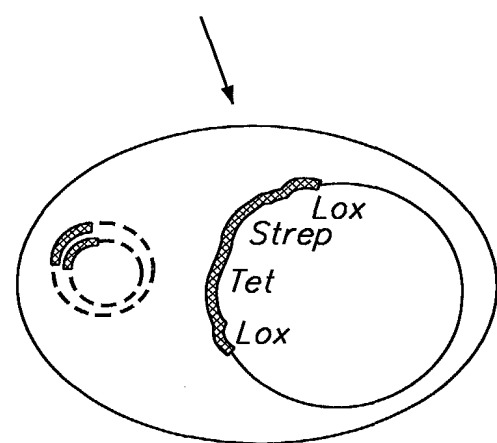
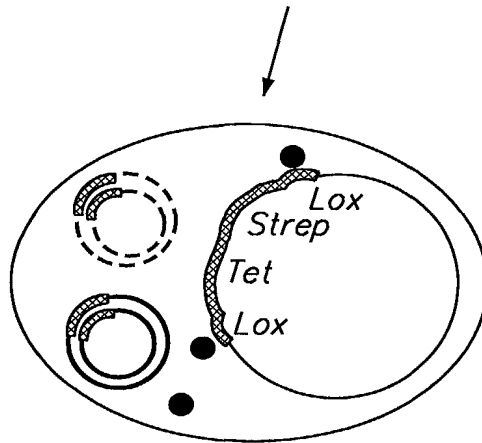


**FIG. 6A**



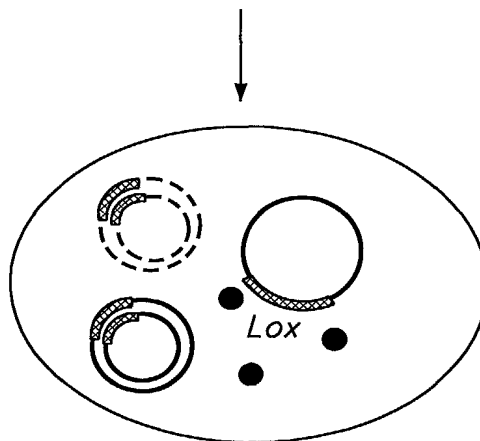
*In absence of a variation,  
no repair occurs.  
Both strands are replicated*

*In presence of a variation,  
repair occurs. Only the  
strand w/inactive Cre is replicated*

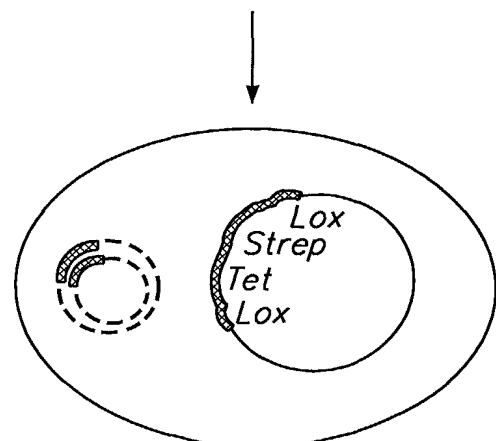


*Active Cre is present in the cell*

*Active Cre is absent in the cell*



*Cell is Tet sensitive  
& Strep resistant*



*Cell is Tet resistant  
& Strep sensitive*

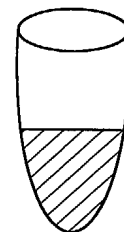
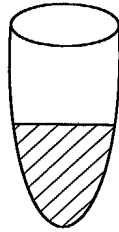
**FIG. 6B**

*Cells are grown in two tubes supplemented either with*

*Tetracycline*

*or*

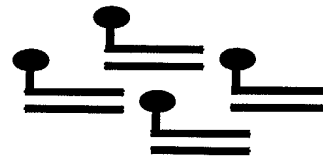
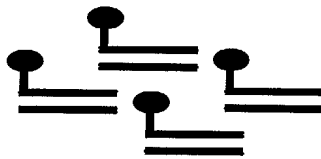
*Streptomycin*



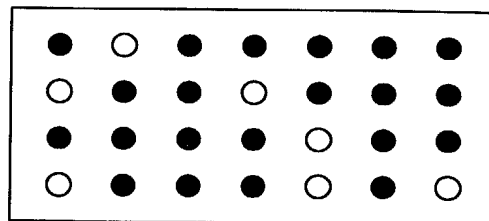
*Next day DNA is preped from the pool of the cells grown in each tube*

*DNA from the Tet pool is labeled with green fluorescence*

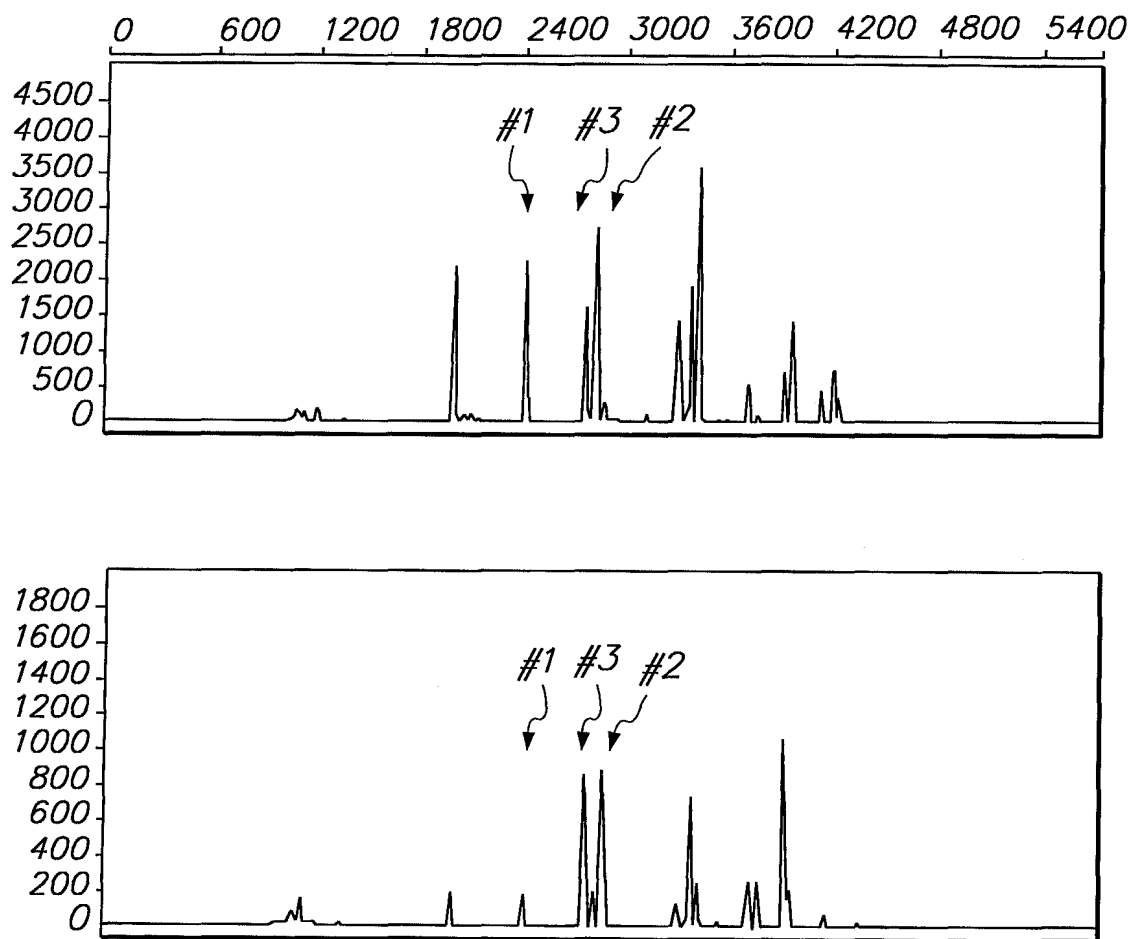
*DNA from the Strep pool is labeled with red fluorescence*



*DNA from both pools are mixed and hybridized to a DNA microarray.  
Each spot corresponds to a different gene fragment that is being tested*



**FIG. 6C**

**FIG. 7**